

CHAPTER A-10

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CHAPTER A-10

DRAWINGS

10.1 GENERAL.

10.1.1 Purpose and Scope. This chapter sets forth criteria and standards to enable designers and drafters to prepare a clear, uniform set of design drawings and illustrations. Unless specifically noted in the A-E's scope of work, the standards for drawing presentation contained in this chapter shall be used in the preparation of all drawings required in a contract. Drawings shall be prepared with the expectation that the construction contractor - with the Corps of Engineers acting in the role as supervisor/inspector - will be able to construct the facility without any additional assistance and/or without the necessity for modifications to correct design deficiencies. Drawing submittals shall also be detailed to the extent that an accurate cost estimate can be prepared and shop drawings can be checked. Special consideration has also been given to the reproduction processes, plotting equipment, and techniques which will be used in subsequent operations.

10.2 **APPLICABLE PUBLICATIONS.** The publications listed below, hereinafter referred to by basic designation only, shall be used when preparing drawings. In each case, the most current edition existing at the beginning of the design shall be used.

DP 1110-1-1 (March 1997) Savannah District Drafting Standards

Tri-Service CADD /standards Release 1.8. Available on Internet at <http://tsc.wes.army.mil/>

These publications clearly delineate drawing requirements for military drawings consistent with the basic guide criteria, ER 1110-345-700, Design Analysis, Drawings and Specifications.

10.3 COMPUTER AIDED DESIGN AND DRAFTING (CADD).

10.3.1 The following CADD file requirements will apply:

a. The design drawing files shall be created using guidance provided herein. The generic details provided by Technical Report CADD-93-1 should be used as much as practicable. The purpose of this manual is to set forth standards which will provide the Corps with a consistent and compatible platform for CADD system use throughout the Corps. The establishment of a uniform CADD platform will provide a means for rapid and accurate transfer and integration of virtually all project-related information throughout the life cycle of any building project or facility master plan. Savannah District, along with most other COE districts, has chosen to make Intergraph MicroStation and related products, the CADD system of record. All translations from other systems to assure compatibility must be the task of the A-E firm and not of Savannah District personnel.

b. As a **minimum** each drawing in a design shall have an electronic file copy. Only **one** drawing should occupy a design file. With very few exceptions, all drawings will be created such that they can be plotted black and white. Color drawings will only be used in rare renovations projects.

c. A key plan should be displayed on each design file that depicts topographic information or plans that are broken due to size and scale.

d. The **final design files** should be saved with the composite drawing (drawing as it is to be plotted) in View 8, the title block in View 4. Additionally, if color is used for plotting, the color overlay in View 5 and the basic in View 2.

e. All reference files are to be attached without drive or directories (no paths).

f. The design file naming convention is an alpha/numeric 8 digit file name for design files. For CAL files, we must have the file named for the numeric sheet number of the drawing. (Example 001.cal, 002.cal ... 123.cal.) See Appendix A for a complete file naming convention for all disciplines.

The **CADD file name** should be displayed within the title block in the space between the "scale" and the "sheet" in English title block.

g. A CADD drawing level assignment table Design File Level Scheme sheet (Exhibit A-10-3) must be completed for each file.

10.3.2 The particular requirements of the computer graphic deliverables are itemized as follows:

a. As a minimum each drawing represented in a design should have an electronic file copy. This electronic copy must be readily accessible by the technical staff of Savannah District. The acceptable file format standard is Intergraph (.DGN). However, for sample projects (i.e. Air Force) the Customer may ask for Autocad (.DWG) file format. Follow the instructions in your particular contract. Any supporting files, cell and font libraries must also be furnished to the Savannah District with the design files.

b. A text listing of the file name, plate no., and drawing title should be submitted in hard copy form. The electronic media used for delivery should be:

(1) 3-1/2" MS-DOS high density disk (.DGN, .DXF, or .ZIP files). **No more than 5 disks. You can use Dos PKZIP utility or WINZIP utility. Do NOT use MS DOS Backup or Windows backup utility.**

(2) CD-ROM created with a drive adhering to **ISO 9660**. Disk capacity of 650MB.

(3) You may also use IomegaZip 100 disks to transmit data, formatted for IBM compatibles. Capacity 100MB

10.3.3 The A-E shall comply with the following standards.

a. A/E/C CADD Standards Jul 98, from Tri-Service CADD GIS Technology Center

b. SAVANNAH DISTRICT DRAFTING STANDARDS dated 1 March 1997 (this manual was prepared for manual drafting practices - generally most of the information is also pertinent for CADD generated files).

c. Technical Report CADD-93-1 CADD Details Library Tri-Service CADD/GIS Technology Center dated April 1995.

10.3.4. Questions concerning CADD, filing, retrieving files, researching standard designs from previous projects or archived files should be directed through Project Engineering to EN-EC.

10.4 CONCEPT/EARLY PRELIMINARY (30 PERCENT), (60 PERCENT), CODE 3 AND DESIGN/BUILD RFP SUBMITTAL REQUIREMENTS.

Specific technical requirements for these submittals may be found in the individual chapters of the respective technical disciplines. Electronic CADD files should be submitted for electronic compatibility review at each submittal stage. Submit all the CADD drawing files with the hard copy submittal to the Project Engineer. CADD drawing files must be submitted in Intergraph DGN, and CAL Type 1 format. Only one set of the CADD files is required. Each electronic drawing submittal package must be labeled as to the base, project name and design submittal percentage.

10.5 FINAL (100 PERCENT) DESIGN SUBMITTAL REQUIREMENTS. The drawing guidance given in this chapter is applicable to the Final (100 Percent) Design submittal. Additionally, it should be noted that all title block information (titles, numbering, etc.) must be complete in the Final (100%) Design submittal. Specific technical requirements for this submittal may be found in the individual chapters of the respective technical disciplines. This submittal shall include an electronic copy of all CADD files for the design. CADD drawing files must be submitted in Intergraph DGN, and CAL Type 1 format. Submit all the CADD drawing files with the hard copy submittal to the Project Engineer. Only one set of the CADD files is required. Each electronic drawing submittal package must be labeled as to the base, project name and design submittal percentage.

10.6 CORRECTED FINAL DESIGN SUBMITTAL REQUIREMENTS.

10.6.1 Notice. Corrected Final submittals are not considered a normal design level and are required only when Final submittals must be revised or corrected due to error or omission.

10.6.2 General. The drawing guidance given in this chapter is applicable to the Corrected Final Design submittal. The submittal shall include an electronic copy of all CADD files used in the design. Submit all the CADD drawing files with the hard copy submittal to the Project Engineer. CADD drawing files must be submitted in Intergraph DGN, and CAL Type 1 format. Only one set of the CADD files is required. Each electronic drawing submittal package must be labeled as to the base, project name and design submittal percentage.

10.7 MATERIALS.

10.7.1 Drawing Media. Drawings shall be plotted on bond paper, drawing size F for English Inch Pound Unit Projects (30" x 42" overall) using borders, title blocks, and zoning as provided on disks. For metric SI designs use drawing size A1 (841 x 594 mm overall). Plain, unbordered sheets are also used for drawings involving overlays. Overlaying tick marks must be displayed for referencing the overlay to the basic drawing.

10.7.2 Other Media. There are various electronic files available from Savannah District, CADD Support Unit, EN-EC. The A-E should request CD-ROM with files through the Project Engineer, or ask for the current Web page where they can be found. Formats available on CD are the following:

- a. Border Sheets for both Metric and English jobs
- b. Cover Sheet (for jobs with more than 50 drawings - see Savannah District Drafting Standards)
- c. Combination Cover/Index Sheet (for jobs with 50 or less drawings)
- d. Index of Drawings (for use with Cover Sheet)
- e. Color and Finish Schedule
- f. Door Schedule Form
- g. Location Plans (all bases do not have electronic files)
- h. Fence Details
- i. Nonreinforced Vehicular Rigid Pavement Joint, Curb, and Gutter Details
- j. Nonreinforced Aircraft Rigid Pavement Joint Details
- k. Various Cell Libraries
- l. Standard Designs from the Army Standardization Program

10.7.3 General Requirements.

10.7.3.1 All drawings will be prepared electronically with software compatible and approved by Savannah District, unless a special waiver has been obtained from Project Management. Color plotting is not acceptable for contract drawings.

10.7.3.2 Excessive patterning should be avoided. Associative patterning or hatching should be used for area patterns and line styles should be used in lieu of linear patterns. The use of multiple line placement to depict line width is not advised.

10.7.4 Intermediate Reproduction Processes. Drawings which the designer/drafter chooses to duplicate during the design process and furnish as contract drawing originals must meet the following requirements: drawing information must be in black (ink-like density and consistency) and be sharp and clearly legible; drawing background must be clean and free of smudges, fold-lines, and extraneous markings.

10.8 DRAWING PREPARATION.

10.8.1 Drafting Standards. All linework, text, symbolizing, and other aspects of drafting shall be accomplished in accordance with DP 1110-1-1. Strict adherence to those standards is essential, and use of other symbols and abbreviations should be avoided. Complete legends of symbols and lists of abbreviations shall be included on the drawings for all submittals so that their meanings are clear.

10.8.2 Half-size Reduction. Particular care shall be exercised to insure that all work is prepared for half-size printing. METRIC designs will not, however, be reduced to half-size. Congested areas should be enlarged to a suitable scale. For any sheet or part of a sheet not meeting this standard, the designer will be required to promptly rescale and resubmit, at no additional expense to the Government, a new drawing which is completely readable when reduced half size.

10.8.3 Multicolor Printing. Some jobs may be best represented by drawings prepared for half-size multicolor printing. This process lends itself to many useful applications, which aid the estimator, prospective bidder, construction contractor, and others in interpreting the drawings. Applications and procedures for the color overlay process are included in DP 1110-1-1. However, the color printing process is only applicable when the project is to be advertised in paper format. If electronic bid set (EBS) is used the color option is not available. Consult the Engineering Manager before proceeding down this route.

10.8.4 Drawings Incorporating Photographs. Certain project drawings (e.g., operations and maintenance work, rehab projects, etc.) may be best portrayed by use of digital or scanned photographic images of the actual buildings or aerial photographic site plans. This method may be used only if the text and linework are placed on a separate level from the basic photograph. (The border and title block should be a reference file to the photograph.) Also, those portions of the photograph which lie underneath the text and/or linework must be removed in order to ensure clarity and readability of the composite drawing.

10.8.5 Line Weights. Line weights are illustrated in DP 1110-1-1. Additionally, special care should be taken to distinguish between new and existing work. Line weights for new work shall be heavier than for existing work where they both occur on the same drawing. This procedure must be followed even when preparing for multicolor printing. Only the line weight variations can effectively distinguish between new and existing work on the full-size composite prints (basic with overlays). Scale and space permitting, a separation of three line weights will be used to make this distinction.

10.8.6 Text. Text shall appear to be single stroke commercial Gothic style, all capitals. Minimum height and width shall be 1/8" inch. In metric designs the heights are 3 for drawing scale of 1:1 and 4.40 for titles. The recommended Intergraph fonts are 1 and 3. Font 3 is particularly well suited for tables and rows of numerals.

10.8.9 Special Ft. Bragg Site Drawing Requirements.

- ☐ A single map of the entire site (model file) indicating the location of all existing and proposed utilities and other constructions to include the footprint of structures, paving (including curbing), sidewalks, and other relevant planimetric features as they will be at the completion of the project, base bid. Another file for any options, if applicable. Only show existing utilities that will remain.
- ☐ The map will be registered to the North Carolina State Plane Coordinate System – Zone 3200 – NAD83 -- U.S. Survey Feet. Elevation units will be MSL GRS80 U.S. Survey Feet.
- ☐ Due North on the map will be as viewed from the bottom of the map. Rotations will not be allowed nor will orientation to Magnetic North.
- ☐ The map will contain a labeled coordinate grid with spacing appropriate to the map extents. For instance, a map scale of 1" = 30' will have coordinates labeled at 100' intervals north/south and east/west.
- ☐ A minimum of four tie-in points will be labeled on the map located near the four corners of the map. The tie-in points will show a symbol at the location of the point and a label indicating the Northing and Easting of each point.
- ☐ All utilities on the map will be clearly labeled as to size and material. Where utilities are to be enclosed in conduits or duct work, a section of the duct will be shown

clearly indicating the dimensions and material of the duct, the contents of the duct such as wire size and type of conductor, whether conductor is primary or neutral, number of conductors, hot water supply or return, pipe size, insulation type and thickness, etc.

- ☐ The map will show the invert elevation of all manholes as well as the invert of each pipe joining a manhole as well as the invert and character of all outfalls.

10.9 DRAWING FORMAT.

10.9.1 General. All projects shall have a cover and an index sheet or a combination thereof. See pages 1-3 through 1-6 of DP 1110-1-1 for details. General sheet layout should follow guidance outlined in DP 1110-1-1 or in information presented herein by individual design disciplines. If Savannah District is doing the soil borings, reserve some space on the index at the end of the C-plates for the soil boring sheets. The soil boring sheets will be scanned and added as full size drawing sheets at the end of the Civil section. Coordinate with your Project Manager or Project Engineer.

10.9.2 Title Blocks. Pertinent information related to title blocks is shown on pages 1-12 through 1-14 of DP 1110-1-1. Exhibits A-10-4 through A-10-6 (included at the end of this section) illustrate completed, filled-in title blocks as indicated below:

Exhibit A-10-4	A-E Title Block, First Sheet in Drawing Set (English)
Exhibit A-10-5	A-E Title Block, First Sheet for Each Section (Discipline) (English)
Exhibit A-10-6	A-E Title Block, Continuation Sheet (English)
Exhibit A-10-7	Sample Revision Block
Exhibit A-10-8	Metric Cover/Index Sheet Format (Under 50 sheets)
Exhibit A-10-9	Metric Cover Sheet Format (more than 50 sheets)
Exhibit A-10-10	Metric Index Sheet Format (more than 50 sheets)
Exhibit A-10-11	Metric Title Block - First Sheet in set
Exhibit A-10-12	Metric Title Block - First Sheet of Each Section
Exhibit A-10-13	Metric Title Block - Continuation Sheets

The drawing Cover Sheet (see page 1-4, DP 1110-1-1) does not require a title block.

10.9.3 Numbering System. The explanations given below refer to numbering required in title blocks.

10.9.3.1 The Solicitation Number is a single, unique, alpha-numeric number set which denotes the specific construction bid solicitation. Due to Government contracting requirements, this number must be secured and placed on all drawings just prior to final printing.

10.9.3.2 The File Number, reflecting Army and Air Force criteria, defines facility classification category code, and sequence for that type facility. This unique seven-digit number set should be obtained from the Project Manager and placed on all design drawings in the set not later than the Final Design submittal.

10.9.3.3 A Plate Number is assigned to each sheet by the designer/drafter. Plate numbers shall have a letter prefix conforming to the system outlined. (It is understood that some of the categories listed may not be applicable to all jobs.)

Type of Work	Plate Prefix	Designation
Cover Sheet		
Index of Drawings		X-
Civil/Site Development & Grading		C-
Topographical Mapping and Survey		C-
Landscaping	L-	
Mechanical Site		MS-
Electrical Site		ES-
Environmental Sewer & Water		W-
Architectural		A-
Interior Design/Furniture Layout		I-
Kitchen Equipment		K-
Life Safety/Fire Protection		F-
Signage		G-
Abatement (Asbestos and/or Lead-Based Paint Removal) or HTRW		H-
Structural		S-
Mechanical		M-
HVAC Controls		MC-
Mechanical Plumbing		P-
Mechanical Fire/Sprinkler		FS-
Electrical		E-
Telecommunications		T-
Security Systems		Q-
Soil Borings		B-

Plate numbers within each group will be numbered consecutively (e.g., A-1, A-2, A-3, etc.).

Do not use a "0" before the numbers 1 to 9. This is guidance for sequencing of drawings for large projects and all listings may not be applicable for all projects.

10.9.3.4 The Sheet Number is a sequence number placed consecutively within each drawing set. The total number of drawings in the set, noted thus: SHEET 1 OF XXX, will be indicated only on the first sheet in the set. This will facilitate later revisions. **NEVER RENUMBER SHEETS AFTER FINAL SUBMITTAL.** If you need to add sheets, simply add a suffix to the sheet number. Example, adding plate A-2A in between sheets 21 and 22. This sheet number would be 21A. The same applies to the CAL files. **DO NOT RENUMBER AFTER FINAL SUBMISSION.**

10.9.3.5 "Ring Number." After the drawings are assembled as indicated above, a sequence number will be assigned and placed on each drawing in the circle at the bottom right-hand border. The first sheet will begin with number 1 and continue consecutively throughout the set. This number is used by reproduction personnel during printing and assembly operations. Usually, the sheet number and the "ring number" will be the same. Variations may occur, however, such as indicated below.

10.9.3.6 Contracts which contain multiple buildings of varied types (e.g., administrative building, barracks, and dining facility) require some variation from the numbering plan outlined above. After the overall site preparation plans, drawings for each building shall be grouped together from other building(s) drawings. A single Solicitation Number will be applied to all drawings in the contract set, just as before. Separate file numbers will be assigned to each building or facility and to the overall project site preparation plans. Plate and sheet numbers will begin anew with each building/facility. If separate file numbers are not assigned, then plate numbers and sheet numbers will be numbered consecutively. However, "ring numbers" follow consecutively throughout the entire set of contract drawings. (Remember ring numbers are for printing purposes not for referencing a drawing.) The drawing Index Sheet(s) should also reflect this grouping of drawings. See TYPICAL DRAWING set arrangement on next page.

10.9.4 Site Adapted Drawings. When site-adapting drawings prepared by Savannah District, other agencies or A-E firms, or utilizing OCE standard drawings, retain the original drawing and title block as is, except for the following items:

- a. Change the title block Plate Number, Sheet Number, and "Ring Number" to blend with other drawings in the new set. The old file number should be retained.
- b. In the revision block, indicate:

"Adapted by (Firm's Name) and issued by Savannah District for (Name of Installation) under Solicitation No. DACA21-(FY)-B- _ _ _ _."

Fill in the appropriate data items (noted in parentheses) for your specific project.

The site-adapt revision block notation example shown on page 1-15 of DP 1110-1-1 reflects that of an in-house (Savannah District) design effort; for drawings being site-adapted by others, the adapting firm's name should be included as indicated above.

10.9.5 For-Information-Only Drawings. When drawings from previous contracts are deemed necessary for information purposes only, the following procedure will be followed:

- a. In the close vicinity of the title block, the following note shall be added:

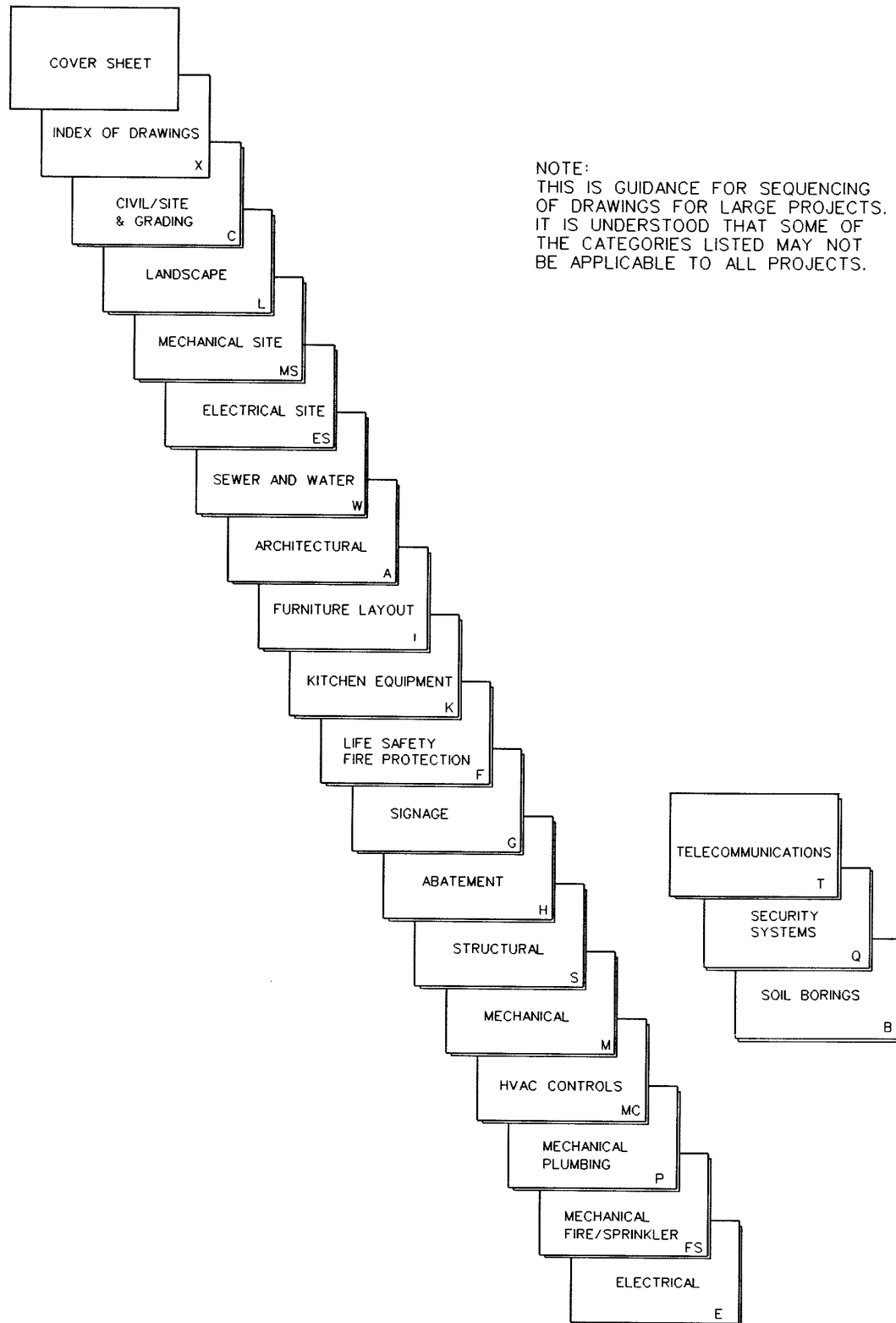
**"THIS SHEET ADDED FOR INFORMATION ONLY UNDER
SOLICITATION NO. DACA21-(FY)-B- _ _ _ _ ."**

Fill in the appropriate data items (noted in parentheses) for your specific project. The lettering shall be as large and bold as practicable (up to 1/4" text size) and should be consistent throughout the set of drawings added. The note should be outlined with a bold, rectangular border.

□

TYPICAL DRAWING SET

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b. No change should be made to the title block or the revision block; however, the "Ring Number" should be changed or added to blend with others in the overall drawing set.

c. The added drawing titles should be reflected on the Index Sheet wherever they occur. However, they should also be annotated "FOR INFORMATION ONLY" on the Index Sheet. A dash should be inserted in the Index Sheet columns which would normally show Plate, Sheet, and File Numbers.

10.10 DRAWING CHECKLIST. Exhibit A-10-14 is a checklist for design drawings. It is not intended to serve as a substitute for all of the drafting standards and criteria cited herein; however, careful use of the list will avoid most of the drafting deficiencies and problem areas encountered in the past. The checklist should be used by the A-E prior to each submittal involving drawing to Savannah District.

10.11 DRAWING REVISIONS. In general, the designer/drafter may be involved in two types of project revisions: preparation of amendments during the advertising period and the preparation of contract modifications subsequent to award of the construction contract. The methods and procedures for reflecting these changes on drawings are described below.

10.11.1 Amendment Drawings. **All amendment revisions to drawings are made by issuing new revised drawing(s).** There will be no written amendments. Use the first available space in the revision block and identify it as Revision 1 (teardrop), or the next sequentially higher number for that drawing. Thus, the revision (teardrop) numbers for a given amendment may vary from drawing to drawing and will not necessarily match the amendment number itself.

10.11.1.1 Revised Reissued Drawings. Where revised drawings are to be reissued as part of the amendment, a listing of these drawings must be in narrative format as shown on Exhibit A-10-17. The listing must indicate the teardrop number and the brief description of the revision which is also to be incorporated in revision block of the drawing.

All revisions reissuing drawings will be tear-dropped on the drawing at the point of revision and will carry a revision number, which will be shown in the column headed "Symbol" in the revision block of the drawing. Zones will be identified when practicable. The zones appear along the borders of the drawings and are used for location purposes within the drawing (numbers horizontally and letters vertically). A brief description of the revision will be entered under "Description" in the drawing revision block as illustrated by Revision 1 (teardrop 1) in Exhibit A-10-17. Where revisions are too numerous to describe, the phrase "GENERAL REVISIONS" will be entered under "Description" as illustrated in Revision 2 (teardrop 2), Exhibit A-10-17.

10.11.1.2 Added Drawings. For sheets to be added by amendment, the revision block will be annotated "Sheet Added by Amendment" at the "Description", no teardrop should be placed in the symbol area. Added sheet titles and other information will be shown on the Index of Drawings sheet.

10.11.1.3 Deleted Drawings. For sheets to be deleted by amendment, the revision block will not be teardropped and the words "Sheet Deleted by Amendment" will be entered under "Description" and the revision block initialed. Sheets deleted by amendment will be shown as "Deleted" on the Index of Drawings sheet.

10.11.2 Modification Drawings. Modifications to construction contracts are high priority items and shall be acted upon without delay. Timely preparation of contract documents to accompany the modification package will prevent undue delay in construction schedules. Upon receipt of design requirements for a proposed modification, the A-E will proceed with preparation of the necessary changes or additions. The completed package will be forwarded to the Project Manager for finalization and subsequent implementation by Construction Division. Modifications to the construction contract may be accomplished by application of one or more methods available to the A-E. Formulating a clear, concise, and accurate modification package cannot be overemphasized.

10.11.2.1 Adding a sketch to the existing set of contract drawings is one method of accomplishing changes desired. The Project Manager will, upon request, furnish an electronic sketch sheet border file, which are standard within the Savannah District, to the A-E for preparation of the sketch. The sketch should be large enough, whether to scale or not, to assure easy reproduction for field use and record purposes. Care should be exercised in completing all information specified at the bottom of the sketch form.

10.11.2.2 Another method of modifying the contract documents is to revise an existing drawing. Care should be taken in conforming to Drafting Standards. Exhibit A-10-17 is an example of acceptable terminology which should appear in the revision block. The "MCB No." may be obtained from the Project Manager in the Savannah District office. Each modification should be properly tear-dropped, described, dated, and initialed by the A-E. See Notes 1 thru 5 of Exhibit A-10-17 for additional instructions.

10.11.2.3 Occasionally a modification requires preparation of one or more new sheets because of the magnitude of the change. For sheets to be added by modification, the revision block will not be tear-dropped and the words "Sheet Added by MCB-##-#" will be entered under "Description" and the revision block initialed. Care should be exercised in assigning sheet and plate numbers to new drawings. For example, if a new sheet is to be inserted between existing Sheets 19 and 20, the proper identification would be Sheet 19A. All drawings added by modification should be noted on the Index of Drawings.

10.12 **SPECIFIC INSTRUCTIONS.** Exceptions to these guidelines or additional guidance relative to a specific job may be provided in the Specific Instructions to A-E for that job.

CHAPTER A-10

DRAWINGS

EXHIBITS

- 1 - ABBREVIATIONS OF MILITARY AND CIVIL PROJECTS FOR FILE NAMING PURPOSES
- 2 - CADD DESIGN FILE LEVEL SCHEME
- 3 - A-E - FIRST SHEET TITLE BLOCK FOR DRAWINGS (ENGLISH)
- 4 - A-E - FIRST SHEET TITLE BLOCK FOR EACH SECTION (ENGLISH)
- 5 - A-E TITLE BLOCK FOR CONTINUATION SHEETS (ENGLISH)
- 6 - SAMPLE OF REVISION BLOCK (AMENDMENTS & MODIFICATIONS)
- 7 - COVER/INDEX SHEET FORMAT (METRIC)
- 8 - COVER SHEET FORMAT (METRIC)
- 9 - INDEX SHEET FORMAT (METRIC)
- 10 - TITLE BLOCK FIRST SHEET IN SET (METRIC)
- 11 - TITLE BLOCK FIRST SHEET IN SECTION (METRIC)
- 12 - TITLE BLOCK CONTINUATION SHEET (METRIC)
- 13 - DRAWING CHECKLIST
- 14 - SKETCH SHEET

ABBREVIATIONS FOR MILITARY AND CIVIL PROJECTS FOR FILE NAMING PURPOSES

**First Letter of File Name
For
Military and Civil Projects
For File Name Purposes**

AIWW	A
Fort Benning	N
Fort Bragg	B
Brunswick Harbor	V
Dobbins AFB	D
Donaldson AFB	O
Fort Gillem	L
Fort Gordon	G
Hartwell Dam & Lake	W
Hunter AAF	H
Fort Jackson	J
Kings Bay Naval Subbase	K
Fort McPherson	F
Moody AFB	M
Pope AFB	P
Richard B. Russell Dam & Lake	U
Robins AFB	R
Savannah River	Z
Seymour Johnson AFB	C
Fort Stewart	S
Strom W. Thurmond Dam & Lake	X
Sunny Point Military Ocean Terminal	T
Turner AFB	E
Tybee Island	Y

HTRW

Formerly owned defense sites (FODS) - Use two letters for site name.

TU TURNER AFB

ND DONALDSON AFB

CADD DESIGN FILE LEVEL SCHEME

(Complete For Each Drawing)

BASE: _____ FY- _____ L.I.- _____
PROJECT TITLE: _____
CADD PROJECT NO.: _____ DATE: _____

Drawing No.: _____ File : _____ (.DGN) Cell Library: _____ (.CEL) *

Ref. Files: 1) _____ 4) _____
 2) _____ 5) _____
 3) _____ 6) _____

[illegible]


* List Cells Created and Added to the COE Library.

[illegible]

A.E. - FIRST SHEET TITLE BLOCK

A

1

 U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS SAVANNAH, GEORGIA		GENERAL TITLE MAIN TITLE		LOCALITY NAME STATE NAME	
DSGN: PREPARED BY: PRINCIPAL OF FIRM RECOMMENDED:	CHK: APPROVAL RECOMMENDED: CHIEF ENGINEERING DIVISION APPROVED:	SIZE F	INVITATION NO. FILE NO.	PLATE X-1	SCALE: NONE
DATE:		COL. C. OF E. DISTRICT ENGINEER		SHEET 1	

1

/usr2/projects/general/odtset.dgn
25-JAN-1993 08:24

FIRST SHEET IN SET

REGISTER	TEL.	TELEPHONE
REINFORCING	TEMP.	TEMPERATURE
REQUIRED	THK.	THICKNESS
RETURN	THD.	THRESHOLD
RETURN GRILLE	TOIL.	TOILET
ROOM	TYP.	TYPICAL
REVOLUTION/MINUTE		
SUPPLY	V	VOLT
SUPPLY AIR	V.	VINYL ASBESTOS TILE
SCHEDULE	V.A.T.	VENTILATION
SECTION	VENT.	VERTICAL
SERVICE	VTR	VENT THRU ROOF
SHEET		
SLIP JOINT		
SPECIFICATIONS	W	WATT
SQUARE FEET	W.	WITH
STEEL	W/	WOOD
STORAGE	WD.	WINDOW DIMENSION
STRUCTURAL	WF	WIDE FLANGE
SUSPENDED	W.G.	WATER GAGE
SWITCH	WP.	WEATHERPROOF
	WTR.	WATER
	W.W.F.	WELDED WIRE FABRIC

OILET

ZONE	DESCRIPTION	DATE	BY
	REVISIONS		

2

EXHIBIT A-10-3

TITLE BLOCK

A.E. - FIRST SHEET FOR EACH SECTION,

SIZES C,D,E,F,G,H,J, AND K

* If this is a military project use the following title:
CHIEF, MIL.PROG.&PROJ.MGMT. BRANCH

* If this is a civil or HTRW project use the following title:
CHIEF, HTRW & SUPPORT FOR OTHERS BRANCH

DESIGN		CHECK		U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS SAVANNAH, GEORGIA	
PREPARED BY:		GENERAL TITLE			
PRINCIPAL OF FIRM		MAIN TITLE			
REVIEWED:		LOCALITY NAME			
PROJECT MANAGER		SIZE		STATE NAME	
RECOMMENDED:		INVITATION NO.		PLATE	
CHIEF		F		A-0	
DATE		FILE NO.		SHEET 00	
DESCRIPTION		SCALE:		1	
REVISIONS		2		00	
ZONE	DATE	BY			

/usr2/projects/general/aeborder.dgn
23-JAN-1993 10:06

REVISION BLOCK AND
SIGNATURE BLOCK ON LEVEL 7

EXHIBIT A-10-4

SHEET SIZES C,D,E,F,G,H,J, AND K

[illegible]

2

/usr2/projects/general/aeborder.dgn
23-JAN-1993 10:04

SEQUENCE NUMBER FOR
ASSEMBLING DRAWINGS AND PRINTS

REVISION BLOCK ON LEVEL 5

EXHIBIT A-10-5

REVISION BLOCK

SIZES C, D, E, F, G, H, J AND K

TITLE
BLOCK

		REVISED AS BUILT	25JUN94	VTHP
③	2C	REVISED IN ACCORDANCE WITH MCB NO. 94-139-B	30MAR94	LW
②	5D	REVISED IN ACCORDANCE WITH AMENDMENT 0002	20FEB94	MCD
①	1A,3B	GENERAL REVISIONS	10FEB94	MJW
		SHEET ADDED BY AMENDMENT 0001 (100V-1)	12JAN94	NDT
SYMBOL	ZONE	DESCRIPTION	DATE	BY
REVISIONS (100V-1)				

2

NOTES:

1. REVISIONS SHOWN ARE EXAMPLES ONLY AND DO NOT INCLUDE ALL VARIATIONS.
2. DRAWINGS SHALL BE REVISED AND REVISIONS RECORDED AFTER FIRST ISSUE WHEN DIRECTED BY PROPER AUTHORIZATION.
3. USE THE TEARDROP SYMBOL () IN THE REVISION BLOCK AND AT THE POINTS OF REVISION. WHEN A VIEW IS EXTENSIVELY REVISED, A TEARDROP SYMBOL DIRECTED AT THE TITLE OR SUBTITLE IS ACCEPTABLE.
4. FILL IN ZONE COLUMN WHENEVER POSSIBLE. WHERE MANY ZONES ARE REVISED, USE A DASH.
5. NUMERALS SHOWN THUS (80V-0) INDICATE LEROY GUIDE SIZE AND LINE WEIGHT. SEE PAGE 1-12 FOR LEROY TO CADD CONVERSION TABLE.

DP 1110-1-1
APP A
1 MAR 97

[illegible]

NOTES:

1. USE WITH 50 OR LESS DRAWINGS IN SET.
2. AN ELECTRONIC VERSION OF THIS COVER/INDEX SHEET IS AVAILABLE AND WILL BE FURNISHED TO CONTRACTOR.

COVER SHEET FORMAT

METRIC SHEET

DP 1110-1-1
APP A
1 MAR 97



US ARMY CORPS
OF ENGINEERS
Savannah District

MILITARY OR
CIVIL WORKS GENERAL
PROJECT TITLE

PROJECT LOCATION

FY LI

SOLICITATION NO.

ARCHITECT/ENGINEER
FIRM NAME
City, State

NOTES:

1. USE WITH MORE THAN 50 DRAWINGS IN SET.
2. AN ELECTRONIC VERSION OF THIS COVER SHEET IS AVAILABLE AND WILL BE FURNISHED TO CONTRACTOR.

INDEX SHEET FORMAT

MORE THAN 50 SHEETS IN SET - METRIC SHEET

DP 1110-1-1
APP A
1 MAR 97

SECTION SYMBOLS		DRAWINGS		INDEX		ABBREVIATIONS	
SYMBOL	DESCRIPTION	DRAWING NO.	SHEET NO.	DRAWING TITLE	SHEET TITLE	ABBREVIATION	FULL NAME
	SECTION A-A						
	SECTION B-B						
	SECTION C-C						
	SECTION D-D						
	SECTION E-E						
	SECTION F-F						
	SECTION G-G						
	SECTION H-H						
	SECTION I-I						
	SECTION J-J						
	SECTION K-K						
	SECTION L-L						
	SECTION M-M						
	SECTION N-N						
	SECTION O-O						
	SECTION P-P						
	SECTION Q-Q						
	SECTION R-R						
	SECTION S-S						
	SECTION T-T						
	SECTION U-U						
	SECTION V-V						
	SECTION W-W						
	SECTION X-X						
	SECTION Y-Y						
	SECTION Z-Z						
	SECTION AA-AA						
	SECTION BB-BB						
	SECTION CC-CC						
	SECTION DD-DD						
	SECTION EE-EE						
	SECTION FF-FF						
	SECTION GG-GG						
	SECTION HH-HH						
	SECTION II-II						
	SECTION JJ-JJ						
	SECTION KK-KK						
	SECTION LL-LL						
	SECTION MM-MM						
	SECTION NN-NN						
	SECTION OO-OO						
	SECTION PP-PP						
	SECTION QQ-QQ						
	SECTION RR-RR						
	SECTION SS-SS						
	SECTION TT-TT						
	SECTION UU-UU						
	SECTION VV-VV						
	SECTION WW-WW						
	SECTION XX-XX						
	SECTION YY-YY						
	SECTION ZZ-ZZ						
	SECTION AAA-AAA						
	SECTION BBB-BBB						
	SECTION CCC-CCC						
	SECTION DDD-DDD						
	SECTION EEE-EEE						
	SECTION FFF-FFF						
	SECTION GGG-GGG						
	SECTION HHH-HHH						
	SECTION III-III						
	SECTION JJJ-JJJ						
	SECTION KKK-KKK						
	SECTION LLL-LLL						
	SECTION MMM-MMM						
	SECTION NNN-NNN						
	SECTION OOO-OOO						
	SECTION PPP-PPP						
	SECTION QQQ-QQQ						
	SECTION RRR-RRR						
	SECTION SSS-SSS						
	SECTION TTT-TTT						
	SECTION UUU-UUU						
	SECTION VVV-VVV						
	SECTION WWW-WWW						
	SECTION XXX-XXX						
	SECTION YYY-YYY						
	SECTION ZZZ-ZZZ						
	SECTION AAAA-AAAA						
	SECTION BBBB-BBBB						
	SECTION CCCC-CCCC						
	SECTION DDDD-DDDD						
	SECTION EEEE-EEEE						
	SECTION FFFF-FFFF						
	SECTION GGGG-GGGG						
	SECTION HHHH-HHHH						
	SECTION IIII-IIII						
	SECTION JJJJ-JJJJ						
	SECTION KKKK-KKKK						
	SECTION LLLL-LLLL						
	SECTION MMMM-MMMM						
	SECTION NNNN-NNNN						
	SECTION OOOO-OOOO						
	SECTION PPPP-PPPP						
	SECTION QQQQ-QQQQ						
	SECTION RRRR-RRRR						
	SECTION SSSS-SSSS						
	SECTION TTTT-TTTT						
	SECTION UUUU-UUUU						
	SECTION VVVV-VVVV						
	SECTION WWWW-WWWW						
	SECTION XXXX-XXXX						
	SECTION YYYYY-YYYYY						
	SECTION ZZZZ-ZZZZ						

NOTES:

1. USE WITH MORE THAN 50 DRAWINGS AND IN CONJUNCTION WITH COVER SHEET.
2. AN ELECTRONIC VERSION OF THIS INDEX SHEET IS AVAILABLE AND WILL BE FURNISHED TO CONTRACTOR.

A-E - FIRST SHEET IN SET - METRIC SHEET

DP 1110-1-1
APP A
1 MAR 97

[illegible]

A-E - FIRST SHEET IN SECTION - METRIC SHEET

DP 1110-1-1
APP A
1 MAR 97

[illegible]

LEVELS 1-5, 7 ON
LEVEL 6 OFF

A-E - CONTINUATION SHEET - METRIC SHEET

DP 1110-1-1
APP A
1 FEB 94



LEVELS 1-6 ON
LEVEL 7 OFF

DATE:	REV.
CATEGORY CODE	
SOLICITATION NO:	
PLOT DATE: 88DATE88888	
PLOT SCALE: 1	

ARCHITECT/ENGINEER FIRM NAME
ADDRESS
CITY, STATE

[illegible]

6

15

4

DESIGN FILE: D:\NSPEC\990119\191431\191431.DWG

DRAWING CHECKLIST

The checklist is designed to acquaint firms with printing and storage requirements for preparation of contract documents. It is intended to serve only as a guide and does not replace detailed criteria provided elsewhere.

- ___ 1. All work depicted on drawings should be suitable for reduction to one-half size.
- ___ 2. A minimum of 1/8" height text should be used within the body of a drawing.
- ___ 3. New work should be shown three weights heavier than existing.
- ___ 4. Overlays and base sheet should be composited to check for duplication or overprinting of features, notes, plans, sections, details.
- ___ 5. Titles, subtitles, scales, title block and revision block information should be in accordance with DP 1110-1-1.
- ___ 6. Titles of drawings should agree with the titles listed on the Index of Drawings.
- ___ 7. The total number of drawings should be shown only on the first sheet of the set.
- ___ 8. The signature block should be on the first sheet of each discipline. Refer to DP 1110-1-1.
- ___ 9. Drawings should be consecutively numbered in the rings beside title blocks.
- ___ 10. Site-adapted drawings must have the appropriate notation in each revision block.
- ___ 11. Amended or modified drawings must have the appropriate notation in each revision block.
(Cell GEN009)
- ___ 12. Symboling on drawings should be in accordance with EM 1110-1-1807 or DP 1110-1-1 and accompanied by a complete legend.
- ___ 13. Coordinate the use of cross-referencing bubbles for locating sections, details and elevations. Use the method depicted in the DP 1110-1-1.
- ___ 14. On the Final Design submittal, all title block numbering (Plate No., File No., Sheet No., and Ring No.) should be in place.
- ___ 15. All final contract drawings should have the design files name on the electronic title block.
- ___ 16. Colored ink should not be used on plotted drawings.
- ___ 17. Multiple drawing layers must be composited into a single reproducible sheet, or into one reproducible sheet per color overlay where color reproduction is planned.

DRAWING CHECKLIST (Continued)

- ___ 18. All basics and overlays should be submitted in order; printing information must appear below the cut line in the right-hand bottom corner. Example: RED P-28.
- ___ 19. All overlays must be registered with each corner of the wide border of the basic. (Cell GEN021 & GEN022)
- ___ 20. Overlays should be the same size as basic drawings. (30" x 42" for English jobs)
(594 x 841 mm for Metric Jobs)

DRAWING CHECKLIST (Continued)

- ___ 18. All basics and overlays should be submitted in order; printing information must appear below the cut line in the right-hand bottom corner. Example: RED P-28.
- ___ 19. All overlays must be registered with each corner of the wide border of the basic. (Cell GEN021 & GEN022)
- ___ 20. Overlays should be the same size as basic drawings. (30" x 42" for English jobs)
(594 x 841 mm for Metric Jobs)

SKETCH SHEET

SAD FORM 3235-5

SKETCH

CELL GEN045 in GENERAL.CEL

JOB SHEET TITLE BASE		REFERENCED DRAWING NO. REFERENCED SHEET NO.	SKETCH SK - OF
		CONTRACT NO. MODIFICATION NO.	
		SOLICITATION NO. ADDED BY AMENDMENT NO.	DATE
			DSGR